

Memorandum

To: Robert P. Oglesby
Executive Director

Date : September 2, 2014

From: Laurie ten Hope
Deputy Director
Energy Research and Development Division
California Energy Commission

Subject: Co-Sponsorship -- International Colloquium on Environmentally Preferred Advanced Power Generation (ICEPAG 2015)

Contact: Andrew Jordan
Renewable Energy and Advanced Generation

Purpose: Request to approve a co-sponsorship of \$4999 for the International Colloquium on Environmentally Preferred Advanced Power Generation (ICEPAG). This conference is organized by UC Irvine's Advanced Power and Energy Program (APEP) and the National Fuel Cell Research Center (NFCRC), in collaboration with the Department of Energy (DOE). The conference provides an ideal opportunity for the Energy Commission to gain visibility, showcase our research and development projects, and gain insight into the forefront of the clean energy market.

The ICEPAG addresses many issues that are at the forefront of energy research and development concerns. California's energy future needs to include distributed generation of efficient and renewable power sources. The grid will need to adapt to handle intermittent renewable resources and electric vehicle charging. The ICEPAG is working to address these concerns by providing a venue to discuss the developments, directions and opportunities of a number of technologies and strategies such as distributed generation and combined heat and power technologies, demand response, energy storage, and many other emerging technologies.

For the ICEPAG 2015, the theme will be on "Sustainable Power Generation, Energy Utilization, and Grid Ramifications." The discussion will include renewable power generation techniques, efficient energy use, and how to adapt the grid to the changes brought about by these technologies.

Background:

The Energy Commission co-sponsored the ICEPAG in both 2008 and 2010 with contributions up to \$10,000.

Each year, ICEPAG attracts industry experts from internationally recognized companies, universities, utilities, laboratories, and government organizations. These participants span the clean industry spectrum in their fields – fuel cells, solar, wind, distributed generation, air quality, and many others. The conference attracts a large gathering of tech companies interested in renewable energy; previous attendees include GE, FuelCell Energy, Ballard Power Systems, Siemens, and many others. The DOE also attends regularly. Typical co-sponsors for the event include the DOE, the South Coast Air Quality Management District, Toyota, and FuelCell Energy. The meeting addresses the future of California's energy resources and electricity supply, while addressing the problems of reducing greenhouse gas emissions and other environmental impacts. For instance, ICEPAG 2014 included in depth sessions on distributed generation and grid adaptation. Discussion on DG technologies included developments and technical barriers of fuel cells, gas turbines including microturbines, and combined cooling, heating and power. Integration and controls for these technologies were also covered. In the grid adaptation segment, the topics included the impacts of electric vehicle charging, intermittent renewable energy sources, microgrids, and smart grid technology for homes and buildings.

Dates and Location:

This conference will be held on the campus of the University of California at Irvine, on March 23-24, 2015.

Target Audience:

The target audience is the renewable energy community and advanced power generation innovators, including utilities, national labs, engineering and technology companies, government entities, and universities. ICEPAG attracts visitors from all over the world, presenting an excellent opportunity to share perspectives with a wide audience.

Proposed Cost to the Energy Commission:

The proposed contribution to the ICEPAG is \$4999. Proposed funding will come from the FY 13/14 EPIC Technical Support budget.

Energy Commission Benefits

- The Energy Commission will have an opportunity to influence the agenda of the meeting, thereby having higher assurance that relevant issues and topics in the advanced and renewable distributed generation research will be considered, an opportunity that is less likely possible without this sponsorship agreement. Furthermore, this will be an opportunity to provide input to the advanced

generation and renewable energy and advanced generation communities on our activities and goals.

- The Colloquium will provide a venue for Energy Commission-funded advanced generation projects to present their results and leverage from the review of experts in attendance.
- Collaborating with other government entities, universities, and technology leaders will help the energy commission to avoid duplication of research and gather information on the most pressing needs for research and development.
- This opportunity will allow the Energy Commission to learn of new technologies from leaders in the renewable and advanced generation technology area. The Energy Commission will be provided with up to 10 complimentary seats at the conference.

Action Requested: Co-sponsorship of the ICEPAG and a contribution of \$4999.

This co-sponsorship of the ICEPAG colloquium will allow collaboration and information sharing with technology leaders, an opportunity to present CEC project results, and provide up to 10 complimentary seats at the conference.

ICEPAG is a conference on clean and advanced power generation that covers issues such as fuel cells, solar, wind, and distributed generation. We wish to co-sponsor this conference for \$4999.